IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claim 1 (canceled).

2. (currently amended)A spread spectrum communication receiver comprising: a receiver which receives a signal using a pseudo noise code from a transmitter; and

a matched filter which has taps, each tap having a weight,

wherein said transmitter has a pseudo noise code generator for generating, as said pseudo noise code, a code sequence having a code length of at least 14 and having a value corresponding to a peak of one of plural absolute auto-correlation side lobes having a smallest value, which is calculated such that in a synchronous detection system, a signal code sequence Sk corresponds to 1 and 0 of an information signal and is represented by the following equation:

$$S_k = \begin{cases} m_{\mathrm{mod}(k/n)}(data = 1 or 0) \\ -m_{\mathrm{mod}(k/n)}(data = 0 or 1) \end{cases} \qquad \text{(Expression 1)}$$

wherein m_j (j=1, 2,...,n; n=code length) corresponds to one of the pseudo noise codes b_j ~~shown in TABLES 1 through 9 of the specification, and~~ is<u>as</u> represented by the following equation:

$$m_j = \begin{cases} 1(b_j = 1) \\ -1(b_j = 0) \end{cases}$$ (Expression 2)

wherein in a delay detection system, the signal code sequence S_k is represented by the following equation:

$$S_k = \begin{cases} m_{\mathrm{mod}(k/n)} S_{k-1} (data = 1 or 0) \\ -m_{\mathrm{mod}(d/n)} S_{k-1} (data = 0 or 1) \end{cases}$$ (Expression 3)

wherein a reference code of a receiving side is denoted by M_j, and a correlation coefficient O_k is represented by the following equation:

$$O_k = \sum_{j=1}^{n} S_{k+j-1} M_j$$ (Expression 4)

in a case where $M_j = m_j$, and the correlation coefficient O_k represents an auto-correlation coefficient which is represented by the following equation:

$$O_k = \sum_{j=1}^{n} S_{k+j-1} M_j$$ (Expression 5)

wherein sub-peaks other than correlation peaks (mod(k/n) ≠1) are referred to as side lobes; and

wherein said value of said peak of the one of the absolute auto-

correlation side lobes having the smallest value refers to the highest point of said one of the absolute auto-correlation side lobes.

3. (previously presented) A spread spectrum communication receiver according to claim 2, wherein each tap has a coefficient and said coefficient is derived by using an optimization algorithm for peak to side lobe ratio.

4. (previously presented) A spread spectrum communication receiver according to claim 2, wherein the number of taps on the receiver is larger than the number of taps on the transmitter.

5. (previously presented) A spread spectrum communication receiver according to claim 2, wherein a code length of said pseudo noise code is at least 14 and is an odd number.

6. (previously presented) A spread spectrum communication receiver according to claim 2, wherein a code length of said pseudo noise code is 15, 21, 25 or 27.

7. (previously presented) A spread spectrum communication receiver according to claim 2, wherein said spread spectrum communication receiver has a filter function for demodulating a received signal and reducing side lobes of an obtained output matched signal.

8. (previously presented) A spread spectrum communication receiver according to claim 2, wherein said matched filter is used as a demodulating element for demodulating a received signal.

9. (previously presented) A spread spectrum communication receiver according to claim 2, wherein said pseudo noise code is multiplied by a high frequency carrier, and a resultant signal is mixed with a received signal to conduct demodulating of said received signal.

10. (previously presented) A spread spectrum communication receiver according to claim 2, wherein demodulation processing is conducted by using a correlation element for conducting correlation processing between a signal obtained by multiplying said pseudo noise code by a high frequency carrier and a received signal.

11. (previously presented) A spread spectrum communication receiver according to claim 2, wherein the delay detection system is used as a system for detecting a demodulated received signal.

12. (previously presented) A spread spectrum communication receiver according to claim 2, wherein the synchronous detection system is used as a system for detecting a demodulated received signal.